Using the DesignJet Z2100 Printer/Plotter in Northrop Hall Rm 209

The purpose of this document is to provide information that will enable users to print successfully on the new HP Designjet Z2100 Printer in Northrop Hall, Room 209.

A copy of this document will be kept near the printer at all times. If it is missing, please notify Jim Connolly (connolly@unm.edu) or the computer TA immediately. An Acrobat PDF (the most updated version you will find) is on the department's "Intranet" web page at http://epswww.unm.edu/intranet. You will need to enter your Username and Password when connecting to access the index page. A link to the full HP User Manual (in PDF format) for the printer is also provided there.

By default the printer will be loaded with a 42" wide heavyweight matte bond that will print photos, graphics and text with very good resolution and will work very well for posters. Other papers available in rolls include 42" wide glossy photo paper or 36" wide coated inkjet paper. The printer also accepts a wide variety of sheet media through its single sheet feed slot. We charge $1.50/sq ft for printing on the matte paper, $1.00/sq ft for the coated inkjet paper, and $2.00/sq ft for glossy. The printer includes tracking of what is printed by username and we do billing from that information.

The default media for printing that is loaded is the "Super Heavyweight Plus Matte Paper". All available papers have been color-calibrated for excellent output. *All users are strongly encouraged to make use of the services of the network administrator or computer TA to change papers to avoid any jamming or tearing issues that may occur.* It is critical to specify the correct paper type when loading to produce the best quality output. The three calibrated paper types we routine have available are defined in the printer and calibrated as:

1. HP Super Heavyweight Plus Matte Paper (actually Holman's Firenze ICOAT DMPG132) in 42" wide x 100 ft roll.
2. Photo Gloss Paper (Holman's ICOAT DMPDQU-G) in 42" wide x 100 ft roll.
3. Coated Paper (Holman's ICOAT JSR-24) in 36" wide x 300 ft roll.

Printer Basics

By far, the most reliable way to print anything on this plotter is to use whatever application you want to make your poster (Illustrator, Corel Draw, Canvas,Powerpoint, etc), make an Acrobat PDF out of your poster and print that, carefully following the procedures below. If you have a version of Acrobat that lets you create PDFs (not just Reader) you can do everything from your own computer. If you don't, you may have to use one of the computers in the computer lab to do the final output.

Below are the steps shared by all users when using the new Plotter to print posters. *Please read the tips sections following this one to minimize distress while printing.*

1. Everyone has permission to print on this plotter (unless you are on the "delinquent" no-print list). You do not need to sign up in advance. We will have signup sheets prior to popular meetings (like GSA, AGU, etc.) to minimize potential time conflicts.
2. "Add" the printer on the computer you will print from. It is a network printer with the address: \\eps3\eps209pt PCL3. Be sure *not* to make it your default printer. This should be done under your network login and must be done on the lab computer you are using the first time you use it for printing.   Please note that the computer hosting the printer driver is now *eps3*, not eps2. This was changed because of the greater processing power of eps3 for spooling and processing print jobs.
3. Customized paper sizes *that match your printed output* must be created for your particular setup on the printer. It is best to do this *before* you attempt to print in your application. Some applications do not allow you to do it within the application itself. Here how:
    a. Go to Start – Printers and Faxes and find the eps209pt printer in the list

b. Click on the "Custom" box to define a paper size in inches that matches your poster. The width is the left-right dimension (of the roll you are using) and the length is the length of roll you will use. ***Always use the actual paper width.*** Save your setting as something you will recognize (i.e., "42x72 Poster").[1] Avoid using names that tell you nothing.

c. You may make as many custom size settings as you want or think you will use.

4. Start your application and create a PDF of your poster. What you need to do to do this will vary depending on your application. Adobe Illustrator (Ver 10 and beyond) let you "print" a PDF with a custom sized page that matches your poster size. Other programs like Canvas require you to create an Encapsulated Postscript (EPS) file and then let you make a PDF from that. ***Once you have your PDF file sized to match your custom paper size, go to the section on printing a PDF and follow the steps there.***

Printing Tips

This section will likely expand in future editions of this document as we learn more about how to use this printer most effectively.

The Impatient need to be aware . . .

- ***Use speed mode for printing posters.*** This printer has a variety of modes ranging from "speed" to "quality". A speedy 42" x 72" poster will print in about 15 minutes; a "quality" on will take upwards of 45 minutes. You will see very little difference in output between "speed" and "quality" and some posters will not print to completion in "quality" mode.

- Since printing may be done from any computer connected to the network, sign up sheets for busy times are more about respect for each other's time than controlling access. ***Please be civil and respect each other's time.***

- Depending on the application you use to print and the size of your poster and the speed of your computer, between 5 and 15 minutes of the printing time will be used "spooling" the job from your application to a form that can be printed by the printer. This process "rasters" the information in your data file to billions of dots with color information that is sent to the printer. ***During the spooling process it can seem like nothing is happening, but it is.[2]*** Sometimes you may even see error messages that indicate that the printer is not responding or something similar. Do not panic and cancel anything if you see this – give it a few minutes to process the job. You can watch progress by opening the printer icon (lower left of your screen) as it spools the job. ***Be patient!!***

- Spooling a large print job will use a lot of your system's resources. Unless you have a lot of RAM in your computer (1GB or more), it is a very good idea to minimize what your computer is doing (by exiting most applications) until your print job has fully spooled and printing has started. This way spool time will just be long instead of interminable.

- After spooling is done and printing has started, please physically transport yourself to Room 209 and make sure your print job is coming out as expected. ***Do not assume that it is working – go look at it.*** Make sure the Media bin (the cloth hammock under the printer) has been extended to catch your print job when it is done. Watch as the job starts to appear.

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[1] The printer will remember setups made by you on the computer you are using to print. It will not remember them on another computer or be accessible to other users.

[2] Some applications (particularly Adobe Acrobat) can seem to have stopped responding to your operating system while spooling your print job. If you do a Ctrl-Alt-Del and look at Task Manager, Acrobat will show as "Not responding". ***Do not execute an "End Task"*** or it will stop spooling and you'll need to start over again.

- ***Never open the dark tinted plastic top of the printer while it is printing.*** This will cause your job to be terminated, requiring a reset of the printer. Wait until you can see your output start to come out of the printer.
- If, as you see your print job come out, there is something wrong with the orientation or how it is set up, you may cancel printing by pressing the red ⊠ on the printer console. This will stop printing and cut off the paper immediately.[3] You may then go back to your application and try again.
- When printing has started, you may leave and come back when the final print is done.

Printing with PowerPoint

We have not been able to print Landscape-oriented posters successfully from PowerPoint – the program and the printer driver refuses to rotate the poster into the correct orientation (even though PowerPoint's preview thinks it is correct). We will revise this document if and when we resolve this issue. The way to get around it is to make an Acrobat PDF out of your PowerPoint poster and print that (see instructions the next section). If you don't have a version of Acrobat that makes PDF output, all of the systems in the lab have Acrobat Pro (ver. 6 or 7) installed on them and this will work:

1. In PowerPoint, do *File – Print*, and select "Acrobat PDF" as the printed output.
2. In the print window for Acrobat, select "Properties" of the printer. Click the "Layout" tab and select Landscape orientation. Next click the "Paper Quality" tab, then "Advanced".
3. In the "Paper Size" box, choose "PostScript Custom Page Size". A dialog box will pop up allowing you to enter a custom page size. If you have created one previously, it will be available. Select a custom page size with the Width and Height matching your PowerPoint slide; **the Width must be the short direction (typically 36" or 42", the width of the paper roll) and the Height is the long dimension (typically 56")**. (This may seem counterintuitive, but it is what works.) Paper type should be "Roll Feed" and Paper Feed Direction should be "Short Edge First"
4. Check the "OK" boxes to get back to the main Print page and click on "Preview" to make sure orientation and everything are correct.
5. Click on Print to start the process of making your PDF file, specify the filename to use (typically the same as your poster with a PDF extension) and click OK to start "printing". Creating the PDF will take a minute or two and when done will open Acrobat to view your file.
6. In the Acrobat view of your output, check the output size (the "Description" tab in File – Document Properties) and make sure it is what you specified.
7. If making your PDF in the computer lab (Northrop 209) and printing it to the plotter from somewhere else, put it on your "L:" drive folder so it can be accessed from your other system.

Important Note: The easiest way to print a normally sized PowerPoint poster (max. 56" x 42") is to first make a PDF of it with the PDF writing function of Microsoft Office 2007. We have not upgraded the lab systems to Office 2007 because of the expense involved, but Jim Connolly has a this version of the software and can easily make a PDF for you from your PowerPoint poster that will print without any problem. Just put it in your L: drive folder and contact him about it.

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[3] It will also flush the print queue so (unlike the old plotter) it will not try to send the same job again. The printer tracks print jobs in its internal memory, and this tracking includes how much of a job was printed before termination. We will bill for completed jobs. We will not bill for jobs terminated early in the printing process.

Making Acrobat PDFs from other Applications

The basics are the same as for making a PDF from PowerPoint. Somewhere in the printing process you will specify a "Custom Postscript Page Size" and orientation that matches the size and orientation of the poster that you want to print and you will specify AcrobatPDF as your printer output.

Acrobat is the preferred format for printing because it eliminates the complexity inherent in most drawing and illustration programs that use multiple file types and layers for their components and creates a printable postscript file that generally prints exactly as you see it.

Printing from an Acrobat PDF

1. Open the Acrobat PDF version of your poster in Acrobat (whatever version you have including Viewer). Check the document size (the "Description" tab in *File – Document Properties*) to verify the size of the document you will be printing.
2. ***Rotate your poster into portrait orientation.*** <u>This is a critical step that eliminates problems with the printer driver rotating your poster incorrectly</u>. The Menu command is Document – Rotate Pages. In the command box, rotate the document 90 degrees so that the short dimension of your poster is at the top of the page. Under the view menu, select "Fit Page" to show all of your "mini poster".
3. Choose File – Print. The print dialog box should show your poster with a small (8½" x 11") landscape page at the center (from your default printer).
4. Change the printer to \\eps3\eps209pt PCL3 (you must have already connected to this printer as described in the "Basics" section), then click on the *Properties* tab next to the printer.
5. Click on the Paper/Quality tab in the printer driver. Pull down the "Document Size" box. If you have already specified a page size to match your poster, you should find it in the "More . . ." list. If you haven't, you can click on the *Custom* button to create and save a custom page size. It should have a width equal to the width of the roll stock on the printer, and a length that matches the length of your poster.
6. ***Do not ignore this step or you will likely waste a lot of paper and ink.*** The default simple "Print Quality" setting is "Quality". ***Change this setting to "Speed".*** This setting produces very good quality output and works best for mixed text/graphic posters. The custom options include a lot of details that are, in the main, unnecessary. (See the HP User Manual for all the details should you care to know them.)
7. The Paper options should now show your correct paper size. "Paper source" should be automatically select and the "Paper type" should match the currently loaded paper above it (for best quality color output).
8. Click on the "Features" tab and make sure that "Auto Rotate" ***is not*** checked, and that you are going to print at "Actual Size" (the default in the resizing section). When done, select "OK" to return to the main print page.
9. The print preview window on the print page should now show the correct dimensions and correct orientation as a "mini" view of what your poster will look like when printed. If this is correct, click on "OK" to start printing.
10. During the next "Spooling" step, your document is translated into a many-megapixel rastered output. This step typically takes about 5 minutes (for a "speed" poster) during which it seems like not much is happening. Be patient.
11. Depending on the size of your poster, a "Speed" output will typically take about 15 minutes to come out. A "Best" output will typically take 45 minutes to an hour to come out of the printer (and may not successfully go to completion, leaving you very frustrated).

An important Acrobat PDF tip

Adobe Acrobat seems to be an application from which printing (following the steps above) can be accomplished on a consistent basis. There are a variety of applications that can be used to create large-format poster presentations. Not all of these have been tested and debugged successfully on the Designjet Z2100. Some users have reported success with Adobe Illustrator, Canvas and Designer. When their successful procedures are revealed to your author, they will be added here.

The key creating a successful PDF is to create a page size format when saving that matches the size of the poster you want to print. The MS Office 2007 PDF printer does this automatically from Powerpoint, and most Adobe applications have the option to do the same thing from the "Save as . . PDF" option, but PDFs "saved" in Adobe applications can be more complex than "Print to PDF" output sometimes do not print correctly. In general, creating your PDF file with the Adobe Acrobat (Professional or Basic) printer driver is somewhat more reliable than other ways of directly saving files as a PDF. It ***does***, however, require more interaction to define the output page size.

(This document is a draft. When all is perfect, this disclaimer will disappear.)